

REMARKS

In order to more particularly point out and distinctly claim the subject matter which Applicants regard as the invention, the subject matter of the currently presented claims have been limited to be directed to specific embodiments of the present invention. No new matter has been added. Newly presented Claim 30 falls within Examples 7-9 in the present specification and represented Claim 31 falls within Examples 8 and 9 in the present specification. Newly presented Claims 35-37 are specifically limited to the Examples in the present specification. No new matter has been added.

Claims 17-21 have been rejected under 35 USC 103(a) as being unpatentable over Sano et al in view of Applicants' admissions. Applicants respectfully traverse this ground of rejection and urge reconsideration in light of the following comments.

The presently claimed invention is directed to a plated resin molded article that has a metal plating layer provided on the surface of a thermoplastic resin molded article formed from a composition comprising the following components, (A) 10 to 90 mass % of a matrix resin that has a water absorption after 24 hours in 23°C water, according to ISO62, of at least 0.6%; (B) 90 to 10 mass % of a polyphenylene ether-based resin; and (C) a water-soluble substance having a solubility at 25°C of not more than 300g in 100g of water and selected from the group of pentaerythritol and dipentaerythritol in an amount of 0.01 to 50 mass parts per 100 mass parts of the sum of components (A) and (B).

A second embodiment of the present invention comprises the composition discussed above and, additionally, at least one member selected from the group consisting of (D) at least one of a surfactant and a coagulant in an amount of 0.01 to 10 mass parts per 100 mass parts of the sum of components (A) and (B); and (E) a phosphorus compound in an amount of 0.1 to 30

mass parts per 100 mass parts of the sum of components (A) and (B).

As discussed previously, the instant invention is directed to a plated resin molded article which has a high adhesive strength between a thermoplastic resin molded article and a metal plating layer and provides a plated resin molded article having a beautiful aesthetic appearance. The plated resin molded articles of the present invention are obtained by a process that does not involve the use of a heavy metal-containing acid, such as chromic acid, or potassium permanganate. This avoids the problems associated with conventional methods in which environmental hazards are generated through the use of heavy metal etching treatments yet the present invention still provides a highly adherent metal plating layer. The components of the present invention act together to produce a synergistic effect in providing a thermoplastic resin molded article having an improved adherent strength to a metal plating layer. The prior art cited by the Examiner does not disclose the presently claimed invention.

The Sano et al reference discloses a plated polyamide resin article obtained by plating, with a suitable plating substance, a molded article of a polyamide resin composition comprising (A) from 30 to 80% by weight of a polyamide resin, (B) from 20 to 70% by weight of a polyphenylene ether resin, (C) from 1 to 50 parts by weight, per 100 parts by weight of the sum of (A) and (B), of an impact modifier and (D) from 0.01 to 30 parts by weight, per 100 parts by weight of the sum of (A) and (B), of a compatibilizer, in which the polyamide resin forms a continuous phase, and the polyphenylene ether forms a dispersed phase, with a polyamide resin having a crystallinity of from 20-55% with a crystalline region thereof being not less than 72% in the  $\gamma$  crystal form.

In order to expedite the prosecution of the present application, the currently presented claims have been limited to specific embodiments of the Examples in the present application which illustrate the unexpectedly improved

adhesive strength obtained by the present invention. In Examples 7-9 in the Table on page 23 of the present specification, the adhesive strength obtained was respectively 120, 130 and 140 kPa. The adhesive strength obtained by these Examples is far superior to the adhesive strength of the other Examples of the present invention and the Comparative Examples did not even allow plating to occur. Given the unexpectedly superior properties associated with the compositions of Claims 7-9, it is respectfully submitted that any showing of prima facie obviousness under 35 USC 103(a) has been rebutted.

In order to further establish the unobviousness of the presently claimed invention, Applicants are enclosing herewith an executed Declaration Under 37 CFR 1.132 which presents additional test data establishing the criticality of the claimed components in the instant invention. In the enclosed Declaration, Comparative Example 8 prepared a resin molded article from a composition identical to Example 7 of the present application except for using maleic acid as the water-soluble substance (C) instead of dipentaerythritol. Maleic acid is specifically disclosed as being a compatibilizer in column 5, line 16 of Sano et al.

As shown by the results in the enclosed Declaration, the composition of Comparative Example 8 resulted in an adhesive strength of 85 kPa. On the other hand, due to Example 7 containing dipentaerythritol as a water-soluble substance (C) according to the present invention, an adhesive strength of 120 kPa was achieved. This clearly establishes the unobviousness of the presently claimed invention.

The Examiner is respectfully requested to reconsider the present application and to pass it to issue.

Respectfully submitted,

  
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Encl: Declaration Under 37 CFR 1.132  
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